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African women, mother earth, and education on indigenous healing during pandemics: A case study of the Ndau in Chipinge, Zimbabwe

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ABSTRACT

Women have been associated with the provision and sustenance of life. Women's fertility is linked and likened to the fertility of Mother Earth. Globally, the burden of caring for family members and friends is shouldered by women. In Southern Africa, women and girls bear the brunt of care work. Literature on indigenous health practices by African women is scarce, even though they are the custodians of caregiving to the sick in their homes. In Africa, indigenous remedies are part of the cultural and religious practices. The widespread use of indigenous medicine is attributed to its accessibility and affordability. The purpose of this study was to undertake a systematic review of the use of indigenous medicine and indigenous foods to address ailments related to pandemics such as Covid-19 by Ndau women in Zimbabwe. Through the Africana Womanist Theory as a lens, the study adopted a qualitative case study and purposively sampled Ndau women as participants. Data was gathered through interviews, focus group discussions and individual narratives of their experiences in caring for the sick during the COVID-19 pandemic. The study established that Ndau women depend on the provision of Mother Earth to care for the sick in their households. Ndau women cherish the availability of rich medicinal herbs within their homeland, and the herbs proved to be a divine providence in situations where financial resources to access modern health care facilities are scarce. The study recommends a greening socialisation that fosters a caring environmental ethic for the sustainability of nature.

Keywords: Africana Womanist theory, African Indigenous medicine, Ndau Women, Environmental ethic

INTRODUCTION

The interest in the use of Indigenous Medicine and Indigenous healing is based on the success stories of the use of indigenous medicines, especially in Africa. As early as 2002, the World Health Organisation (WHO) estimated that around 80% of the world's population depends on indigenous healing methods and local herbs for many ailments. Furthermore, the WHO reports that in the United States of America, 25%

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of the Pharmaceutical prescriptions are plant extracts, once used by indigenous healers in the past. United Nations Educational, Scientific and Cultural Organization [UNESCO] maintains that 80% of Africans rely on Indigenous Medicine (IM) as their source of primary health care.[1] Most importantly, besides limited health facilities, Africa only constituted 5% of the globally reported cases of COVID-19, and it was the last to be hit by the pandemic.[2] Even before the advent of COVID-19, reports of the success of IM in African countries such as Ghana and Zambia were made, where the effective use of herbal medicine to treat high fever in young children at home was documented.

This study explores African Indigenous healing practices and the place of women and Mother Earth in the healing process. In line with Utsua, the study investigates the role of women in the indigenous healing process and how they relate to their ecological environment as the providers of indigenous medicine.[3] The motivation to carry out this study came from the increased reliance on natural and indigenous herbs during the COVID-19 pandemic. These herbs include lemon tree leaves, lemon grass, mint, zumbani, called mushani in Chindau, garlic and many more. In order to establish the involvement of Ndau women in the prevention and cure of the COVID-19 pandemic and their relationship with the environment, the following questions guided the study.

- What role did Ndau women play in response to the COVID-19 pandemic?
- How do Ndau women relate to their natural environment?
- Which intervention strategies are in place for Ndau women to preserve and conserve the natural environment for sustainable development?

LITERATURE REVIEW

Indigenous healing has entered an era of increasing popularity, especially in African countries. African indigenous healing has made strides over centuries, yet it suffers suppression. The case in point is of Covid-19, where forgotten indigenous healing practices resurfaced as African people tried to battle the deadly pandemic. According to the World Medicines Situation 2011 report, between 70 and 95 percent of people in developing nations utilize indigenous medicines.[4] Causes cited for the reliance on indigenous medicine despite it not being approved by health systems are that it is easily accessible, especially to people living in rural areas and that it is affordable as compared to modern medicine. Indigenous Healing (IH) is described by Struthers, Eschiti and Patchell as a comprehensive and more deeply ingrained holistic healing system that is ancient, intact, and more complicated than is generally acknowledged.[5] Indigenous people practice it all over the world. Indigenous healers are people who see a person as not just a physical form, but as an entire being. It is believed that the body, mind, and spirit are interconnected with one another, with families, with communities, and even with the earth and the universe.[6] This belief is rooted in African Indigenous Religion (AIR), and one cannot separate the issues related to healing and health from the AIR.

Closely related to the issue of healing the earth and caregiving in the African context is the role of women in environmental management, because indigenous healing thrives on natural plants. While there are a number of male herbalists in Zimbabwe, it is the role of women to take care of the sick at home, whether they are herbalists themselves, or they are administering herbs prescribed by a herbalist, or they are using home remedies. The caring nature of women is likened to that of Mother Earth. Hence, Manyonganise elaborate on the genderedness of the environment where such terms as ‘virgin land’,

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[1] United Nations, “Fact Sheet: The UN Internet Gateway on Gender Equality and Empowerment of Women,” 2019.

[2] Mishack Thiza Gumbo and Asheena Singh-Pillay, “Chapter Twelve African Traditional Healing Practices and Technology: Implications for COVID-19 Treatment,” *COVID-19 Perspecfives across Africa*, 2022, 1–6.

[3] T Peter Utsua, “The Importance of African Traditional Medicine and Healing Techniques in the Fight against COVID–19 Pandemic,” *IGWEBUIKE: An African Journal of Arts and Humanities* 6, no. 5 (2020): 456–70.

[4] Y. Lu et al., *The World Medicines Situation* (Geneva: World Health Organization, 2011).

[5] Roxanne Struthers, Valerie S Eschiti, and Beverly Patchell, “Traditional Indigenous Healing: Part I,” *Complementary Therapies in Nursing and Midwifery* 10, no. 3 (2004): 141–49.

[6] Lori Alvord and Elizbeth Cohen Van Pelt, *The Scalpel and the Silver Bear: The First Navajo Woman Surgeon Combines Western Medicine and Traditional Healing* (Bantam, 2000).

'mother or 'mother nature' are used to describe the caring nature of the environment.[7] Harris discusses womenisation and feminisation of the planet, where he argues that while thinking of the planet as a "mother" and feminizing it can help make connections to women's lives, there is also a weird similarity between the structural forms of violence that black women have historically experienced and the ecological violence that the earth has experienced.[8] The earth, just like women, gives forth life. It takes back all the dirt, purifies it and gives back more life. Manyonganise maintains that Women have a different "natural mindset" to nature due to their biological experiences (defined by the female body and its functions, such as pregnancy, childbirth, lactation, and menstruation) and cultural experiences(defined by the care and raising of children).[9] On the other hand, women's closeness to nature is said to give them a "special" wisdom that will allow them to save the environment.[10] In describing the gender, environment, and sustainable development ideology. Rico pointed out that in contemporary society, discrimination against women is primarily manifested as:

(i) the sex-based division of labor, which leaves women largely responsible for taking care of the home and raising the children;
(ii) the disparity in advantages and access to productive resources between men and women;
(iii) limitations on participation in decision-making processes and access to the various forms of public power.[11]

Compared to men, women provide more hours of unpaid care work.[12] This care is mostly given to family and friends. Due to gendered division of labour, low-income and rural women are mainly in charge of gathering water, obtaining and preparing food, and locating fuel for cooking and heating. They are "vulnerable to changes in the availability and quality of these resources". Since they rely on natural resources, women, especially those in rural areas, are dependent on natural resources for their income, sustenance, and health. Therefore, to women, the environment is the primary provider of sustenance. It is the giver of life, and it is the one they fall back on in times of health hazards such as pandemics like Covid-19. Mishra and Tripathi highlight the role of women in the development process, the preservation of plant species, flora, and fauna, and their livelihood options.[13] These authors examine the effectiveness of encouraging women to participate in the conservation of the ecological value of the environment and help to understand the vast range of environmental issues for resource management.

In support of the close relationship between women and their environment, Shiva reports that Indian women have been struggling for ecological sustenance through conserving forests, land, and water.[14] In their fight to preserve their natural environment, they have challenged the Western concept of nature as an object of exploitation and have protected nature as the living force that supports life. Indian women have challenged the Western view of economics as the production of profits and capital accumulation with their concept of economics as the production of sustenance and satisfaction. A science that does not respect nature's needs and a development that does not respect people's needs inevitably threaten survival. It is against this background that the study undertook a systematic review of the use of indigenous medicine (IM) and indigenous foods to address ailments related to pandemics such as Covid-19 by Ndau women in

[7] Molly Manyonganise, "COVID-19, Gender and Health: Recentring Women in African Indigenous Health Discourses in Zimbabwe for Environmental Conservation," *HTS Teologiese Studies/Theological Studies* 79, no. 3 (2023): 7941.
[8] Melanie Harris, *Ecowomanism, Religion and Ecology* (Brill, 2017).
[9] Manyonganise, "COVID-19, Gender and Health: Recentring Women in African Indigenous Health Discourses in Zimbabwe for Environmental Conservation."
[10] P. K. Mishra and P. Tripathi, "Women and Natural Resources Management; Towards a Theoretical Sythesis.," in *Gender and Livelihoods*, ed. A. Shukla and J. Phookan, 2016, 164–82.
[11] María Nieves Rico, "Gender, the Environment and the Sustainability of Development," 1998.
[12] Gaëlle Ferrant, Luca Maria Pesando, and Keiko Nowacka, "Unpaid Care Work: The Missing Link in the Analysis of Gender Gaps in Labour Outcomes," *Boulogne Billancourt: OECD Development Center* 20 (2014): 1–12.
[13] Mishra and Tripathi, "Women and Natural Resources Management; Towards a Theoretical Sythesis."
[14] V. Shiva, *Staying Alone* (London: Zed Books, 1989).

Chipinge District, South-East of Zimbabwe, the involvement of these women in caring for their sick relatives and their sustainable use of indigenous foods and medicines.

IM and IH face a degree of rejection and are dismissed on the grounds that it is closely linked to African spirituality and African Indigenous Religious practices.[15] This is despite the fact that in Africa, IM constitute the largest part of primary health care due to their availability and accessibility. In line with these attributes, IM became a more valuable part of their primary health care, especially during the Covid-19 pandemic, even though it remains sidelined.[16] The participation of women in the care and healing process is well documented.[17] However, little is known about the Ndau women of Chipinge District, southeast of Zimbabwe utilise IM and how they ensure the availability of the important herbs for future generations. This study examines the involvement of the Ndau women in the use and preservation of IM, especially during the COVID-19 pandemic.

THEORETICAL FRAMEWORK

The study is informed by the Africana Womanist Theory, which is a branch of an Afrocentric paradigm. Africana womanism develops from the proposition that relations expressed in African culture (in this case, in Ndau culture) should be taken seriously and should be considered on their own terms. This study departs from liberal feminist approaches that view gender issues as based on Western individualism philosophy and have a habit of describing such gender relationships as severe gender inequality, gender stereotyping, gender bias, and gross violations of women's fundamental human rights. Africana womanism's strength lies in its assumption that African gender relations need to be based on distinctive African and Ndau ontologies and epistemologies. It is holistic in approach and views male and female as constituting an organic reality. According to this approach, truth and reality are relational and context-bound.[18] This study found it appropriate to screen the Ndau gender matrix as it is based on African culture and its main focus is the unique experiences, struggles, needs and desires of African women. In this case, African womanhood takes precedence and is central to the study of African women, and any other study on women is peripheral.[19] This study is in line with the views of Gambahaya, Muwati & Mutasa, who maintain that the main idea is to project an alternative gender ontology that draws from African ontological and epistemological experience.[20] As a result, it is normal and acceptable for any group of people to view the world through the lens of their own culture.

The primary question in the African setting must be how African women function in today's society in relation to their families, communities, and careers. I do not presume that gender issues in Ndau culture largely involve viewing males as the principal enemy of women when it comes to Ndau women's ability to care for the sick. As a result, concurs with Hudson-Weems, who claims that Africana women do not view men as their main adversaries in the same way that white feminists do, despite the latter's long-standing conflict with white men over being treated like property.[21] White males have historically had institutionalized capabilities to oppress white women, but African men have never had those same rights to abuse African women.

The study is also informed by ecofeminism, which argues that the environment, just like women, is dominated by men. Warren (1990), in Manyonganise, defines ecofeminism as a philosophy and

[15] Samuel Adu-Gyamfi and Eugenia Ama Anderson, "Indigenous Medicine and Traditional Healing in Africa: A Systematic Synthesis of the Literature.," *Annals of Philosophy, Social & Human Disciplines* 1 (2019).

[16] Polydor Ngoy Mutombo et al., "Experiences and Challenges of African Traditional Medicine: Lessons from COVID-19 Pandemic," *BMJ Global Health* 8, no. 8 (2023).

[17] Rico, "Gender, the Environment and the Sustainability of Development"; Manyonganise, "COVID-19, Gender and Health: Recentring Women in African Indigenous Health Discourses in Zimbabwe for Environmental Conservation."

[18] B. Taringa, "Gender Representation of Ordinary Level 2010-2015 Prescribed Chishona Literature Texts. " (University of Zimbabwe, 2018).

[19] Clenora Hudson-Weems, *Africana Womanist Literary Theory*, vol. 838 (Africa Research and Publications, 2004).

[20] Zifikile Gambahaya, Itai Muwati, and David Mutasa, "Restructuring the Gender Conceptual Matrix Form an African-Centered Perspective: Repudiating the Feminist Ontology," *Zambezia* 35 (2008): 40–51.

[21] Hudson-Weems, *Africana Womanist Literary Theory*.

movement that holds that concerns such as social injustice, gender equality, and climate change are all inextricably linked to the dominance of men in society.[22] In particular, ecofeminism maintains that the majority of environmental problems can be linked to the global elevation of traits that are considered masculine—especially those that some would consider toxic, such as dominance and aggression, including the people in positions of authority who exhibit them. Ecofeminism emphasises the fact that women are disproportionately impacted by environmental issues.

Since the world over, women typically hold less monetary wealth and rely more on the natural environment, they are more vulnerable to climate change and its effects on environmental resources.[23] Eco feminists claim that because of masculine dominance, there is no longer a connection between nature and culture, and this disconnection has a negative impact on both nature and women.[24] Ecofeminism's tenets are intertwined throughout the contemporary climate change movement among individuals who actively support equitable change for people and the environment. Ecofeminism calls for an ethic of care and an ethic where decisions are made equitably. We are contaminated when we pollute the planet, and the root of the problem is our patriarchal history, which grants the most powerful person the right to rule, control, and take advantage of everyone else. The entire masculine system of dominance and exploitation should be completely overhauled, according to ecofeminism, and replaced with an ethic of care—a moral philosophy based on the nurturing and caring qualities of women. This strategy emphasizes acting with altruism and showing compassion for others. Women and girls are already disadvantaged in a patriarchal system, especially poor women and girls, women and girls of color, and women and girls of indigenous descent. The already-existing vulnerabilities become more severe when climate change and pandemics are factored in.

Women are mostly involved in utilising trees and plants for the cure and prevention of different ailments. For example, Ndau women use herbs when pregnant to prepare the birth passage; they use indigenous herbs after normal delivery and during breastfeeding.[25] This means that they have a vested interest in the maintenance of the environment. One principle of the ecofeminist ideology is that people who are affected more by the disturbance in the environment should be at the forefront of preserving it.

METHODOLOGY

Research Design

A qualitative approach was adopted, and it allowed the researchers to address the questions on Ndau women's utilization of IM to care for the sick and how they preserve IM for future generations.[26] This approach enabled the researchers to explore the quality of relationships and activities involved in care giving within the Ndau context and the use of IM, including the effects of climate change on the availability of IM. A case study design was utilised within the qualitative approach. The choice of a case study was made on the grounds that it gave the researchers the opportunity to examine the phenomenon under study in great detail and in its real-world context. By utilising a case study design, the researchers were able to closely investigate the small number of participants within a small geographical area.[27] In line with Creswell's views, the researchers chose a case study design because it is consistent with a naturalistic approach, enables them to gather comprehensive information about the phenomenon of interest, analyze informants' detailed perspectives, and conduct the study in an authentic environment.

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[22] Molly Manyonganise, "'The March Is Not Ended': 'Church' Confronting the State over the Zimbabwean Crisis," *Religions* 13, no. 2 (January 22, 2022): 107, https://doi.org/10.3390/rel13020107.

[23] Nations, "Fact Sheet: The UN Internet Gateway on Gender Equality and Empowerment of Women. ."

[24] Yıldız Merve Öztürk, "An Overview of Ecofeminism: Women, Nature and Hierarchies.," *Journal of Academic Social Science Studies* 13, no. 81 (2020); Nishath Anjum, "Covid-19 Pandemic: How Does Social Media Affect Psychological Wellbeing?–A Synthesis of Literature Review," *International Journal of Indian Psychology* 8, no. 3 (2020): 1698–1707.

[25] Anniegrace Mapangisana Hlatywayo, "A Postcolonial Reflection on Ndau Women's Indigenous Ecological Knowledge Systems for Managing Pregnancy and Birth," *African Thought: A Journal of Afro-Centric Knowledge* 1, no. se1 (2021): 1–18.

[26] Jennifer Anne Cleland, "The Qualitative Orientation in Medical Education Research," *Korean Journal of Medical Education* 29, no. 2 (2017): 61.

[27] Robert K Yin, *Case Study Research and Applications*, vol. 6 (Sage Thousand Oaks, CA, 2018).

Research Sample

Purposive sampling and snowballing techniques were adopted to recruit and attract the participation of information-rich informants. Two villages were selected as case sites, and these fall in different climatic regions, though they are from the same district. In each village, seven Ndau women participated in a focus group discussion, and two women from each group were interviewed. The sampling of fourteen women who participated is in line with the guidelines of qualitative research, which outline that a small sample should be used to conduct an in-depth interview.[28]

Data Gathering Instruments

The study gathered data through focus group discussions and open-ended unstructured interviews. Two groups were organised to engage in focused discussions. Each group consisted of seven members. From each group, two members were selected to respond to interview questions. Interviews were used because they allowed the researchers to get extensive data from the participants. Unstructured and open-ended interviews allowed for flexibility and the opportunity to highlight specific issues raised in the focus groups. Ndau women responded to open-ended interview questions pertaining to their experiences as women and their contributions in caring for the sick during the pandemic.

Data Analysis

The researchers utilised qualitative content analysis to make meaning out of the narratives that the Ndau women presented in interviews and focus group discussions. Taking a leaf from content analysis was employe to content analysis was employed to come up with a systematic analysis and interpretation of the data presented.[29] Through Creswell's open-coding techniques, thematic analysis of data was conducted. These methods involve categorizing data before describing it thematically. The researchers gave codes to themes so as to organise data into smaller and digestible categories. For ethical considerations, participating Ndau women were given numbers in order to guarantee confidentiality in data reporting.

Ethical Consideration

Permission to carry out the research was sought from the local leadership and was granted. The participants consented to be involved in the study, and anonymity was maintained through the use of pseudonyms. So the names given in the study are not the real participants' names to keep them anonymous for ethical considerations.

PRESENTATION OF FINDINGS AND DISCUSSION

The thematic analysis that was used to analyse data brought about three themes, which are: 1) Role played by Ndau women during the COVID-19 pandemic, 2) Ndau women and the natural environment, and 3) Intervention strategies put in place by the Ndau women to preserve their natural environment. Each of these themes, including the evidence for them from data gathered are presented below.

Theme1: Role played by Ndau women during the COVID-19 pandemic

Ndau women, like most women the world over, had the role of caregiving to the sick in their families. Participants in this study indicated that caring for the sick in their families was a basic role for them, and they were glad to do so. NW3 (48) observed that:

Denda iri rakandouye padera pematenda atanga tagara tinawo. Saka madzimai eshe aindoita mushando wawo wemazuwa eshe parwariwa. Mushando wemudzimai kana mwanasikana paite denda pamuzi kupepa mutenda. The pandemic came upon other pandemics which were already been encountered. Therefore, all

[28] Ma Dolores Tongco,"Purposive Sampling as a Tool for Informant Selection," *Ethnobotany Research and Applications* 5(2007):147–58.
[29] John W Creswell, *Qualitative, Quantitative and Mixed Methods Approaches* (Sage, 2014).

women were doing what they had already been doing when there was an illness in the home. It is the responsibility of a woman or a girl to care for the sick at home.

NW7(aged 60) concurred that:
Kupepa vatenda pamuzi rimwe remishando yakakosha yemunthukadzi. Pakutorerwa kwedu kwemene, zvinotosiyana. Munthukadzi une mwoyo wekurera nekubatsiridza ndaramo yevakamukomberedza. Saka munthukadzi echikura unoonawo mitombo yakasiyana-siyana inonga yeishandiswa ngevasharuka mumbhuri yaanobarwa uye muntharaunda yake. Unofunda eikura kuti vatenda pamuzi vanongwarirwa sei. Covid-19 yakauya pamusoro pematenda mazhinji atanga tagara tinawo. Madzimai anga agara akaema pandau yawo yekupepa vatenda, kugara nekugara. Taking care of the sick is one of the important responsibilities of women and girls. Even in our upbringing, we differ from men. A woman has a nurturing heart and helps those around her. Therefore, a woman learns about different herbal plants from a tender age, as the elders administer these herbs to the sick at home and in the community. As they grow, women learn to care for the sick. COVID-19 came after other diseases. From time immemorial, woman have always taken their position of caring for the sick.

These Ndau women raised pertinent issues pertaining to the roles of women in the COVID-19 pandemic. Taking a leaf from Manyonganise, the Ndau women did not see themselves as victims in rendering caregiving to the sick among their loved ones.[30] They saw themselves as agents and were ready to play that part as enshrined in their cultural ethos. This view is in direct opposition to the generally held view that African women have been affected by the pandemic as they were presented "as carers and nurturers of households and communities, making them more vulnerable to infection".[31] Instead, these Ndau women took the caring role as part of their way of contributing to the fight against the pandemic. This is in line with Taringa, who noted that viewed from a Western worldview, the roles taken by African women appear as abusive, yet they complement men's roles and bring about the desired order in an African community.[32] The idea is not to compare how the pandemic affected women more than men or whether women were more exposed to the pandemic than men. The issue is how the women responded to the crisis (Covid-19 pandemic) they found themselves in. How did they navigate the cultural caring role against health specifications from the health authorities?

However, COVID-19 had its own challenges of social distancing. In their focus group discussions, all women agreed that they were not able to isolate and keep a social and physical distance in the manner expected by the health authorities because that instruction was in line with their cultural upbringing. To this end, NW5 (aged 55) indicated that:
Kuzosiya murwere ari ega mweiite ekumutsvetere chikafu muri ngekuretu akubaaiti. Zvinongatei kwaa kunyenya munthu. Chibarirwe chedu azviizwi. Saka vatenda vedu taitogara navo teindoshandise mitombo yechianthu yatakakura teindoziye kuti inorapa matenda akarerekera kugotsorwa. Kutotenda Marure kuti kwedu uno dendaro arizi kunyanya kutore anthu. Maonere angu ngeekuti mitombo yechianthu inoshanda. Saka vashomani vakapindana nedenda vakapona. Isolating a patient and leaving him/or her alone, putting his/ her food at the door for them to take alone in the name of social distancing is not feasible. It seems you are neglecting the patient, and that is unethical. So we kept our patients at home and treated them with our indigenous medicines, which we grew up knowing to treat flu-related diseases. My observation is that the indigenous medicines work. Therefore, the few who got ill with COVID-19 recovered.

However, the cultural caring role had its own toll on the lives of Ndau women. NW4 (42) noted that:
Iri denda raikangaidze mukwenyi ngekuti zvaiti mwana wotse mundani, mai votsve mushana. Inga zvakaoma kuite social distanceyo yaironzwa hama yeirwadziwa. Kubeni wadetserazve newe watobatira.

[30] Manyonganise, "COVID-19, Gender and Health: Recentring Women in African Indigenous Health Discourses in Zimbabwe for Environmental Conservation."
[31] Manyonganise, "COVID-19, Gender and Health: Recentring Women in African Indigenous Health Discourses in Zimbabwe for Environmental Conservation."
[32] Taringa, "Gender Representation of Ordinary Level 2010-2015 Prescribed Chishona Literature Texts. ."

Kubhuye kudai titori nemakuwa emadzimai akabate dendaro ngekuedze kupepa hama. Maikuru angu akauye kuzoona babamudoko vainga vabata denda. Baba mudoko mudzimai wavo wakatamika pasure apo. Hino maikuru vakati babamudoko avachisina unongwarira padendari, regai ndoodetsera. Apana chakabuda. Babamudoko vakatisiya navo maikuru veiteera. Asi chakaite kuti maikuru vafe mwoyo wekuda kudetsera hama. The pandemic was confusing and rendered people hopeless and helpless. All were affected, the sick and the caregivers. We do have people who succumbed to the disease. My aunt came over to take care of her brother-in-law because his wife had passed away by the time of the pandemic. In the process of caregiving, she did not follow the social distancing recommendations, and she was also infected with the disease. Unfortunately, she also could not make it. The cultural need and expectation for women to care for the sick relative killed my aunt.

This narrative shows that while strong willpower to serve and perform one's duty and role is acceptable, it was fatal in the face of the pandemic. This is in line with the observations of Muyambo and Manyonganise, who concur that culture is the biggest barrier in social distancing circumstances, and it demands that the sick be cared for.[33] Isolating them while they are in need is the same as ignoring them. Dealing with the fallout if the ailing loved one passes away would be challenging. The families would always feel bad about what they had done. Therefore, women were caught in a cultural responsibility dilemma.

Theme 2: Ndau women and the natural environment

The study endeavours to establish the place of the Ndau women in preserving natural resources, which provide them with indigenous medicines. This is in light of the fact that the natural resources, such as water sources and plants, are already at greater risk due to environmental degradation and climate change. The researcher wanted to find out how the Ndau women relate to their natural environment. Individual interviews and focus group discussions were carried out to source information pertaining to Ndau women's relationship with their environment and their experience with Mother Earth.

All women in the SDGs agreed that they are in constant contact with the natural environment during their daily chores of looking for water, firewood, wild fruits, and engaging in agriculture. One participant in FGD 1 (An elderly woman aged 62) indicated that:

Takakura teitoponere mundharaunda yedu ino. Matundhu amunoona eshe aya ainge makwasha. Inga mwakadzare zvinyuka mumabandaanda eshe awo. Asi ngekuwanda kwevandu, matundhu eshe aa matema evanthu nepataiti apagariki paanemuzi. Zvinyuka zvakapwa ngekuti mimbiti yakatemwa. Makwasha aingwarire zvinyuka apachina. Mimbiti yakatemerwa pashi kuite huni nemapango nehwasha zvekuakise mbhatso dzeanthu. Atichina nemifuya inoerera mvura gore reshe. Hurumende yaakuchindotse migodhi asi mizhinji yacho haibudi mvura. Kuparara kwemakwasha ndokupararawo kwemitombo. Kwabaasare kuretu kwemene kwekutezere huni. Mvura atichatauri. Apachina chinyuka nachimwe hacho. We grow up surviving in our natural environment. All these bare mountains you see were covered in forest trees and plants. But due to overpopulation, all the forests were cleared and turned into fields and homesteads, even in places not suitable for human habitation. All the water springs dried up because the trees that were protecting them were cut down for firewood and building timber. We no longer have perennial rivers. The Government drilled boreholes for us, but most of them do not produce water. Destruction of the natural vegetation and the forests is also the destruction of medicinal plants. Now the firewood can only be fetched from very far away.

The observations from this FGD are pertinent. The issue of land degradation and deforestation has affected many districts in Zimbabwe and other African countries. This is in line with Mapira and Prince, Becker-Reshef and Rishmawi, who maintain that land degradation and depletion of natural resources in

[33] Tenson Muyambo, "Social Distancing in the Context of COVID-19 in Zimbabwe: Perspectives from Ndau Religious Indigenous Knowledge Systems," in *Religion and the COVID-19 Pandemic in Southern Africa* (Routledge, 2022), 37–51; Manyonganise, "COVID-19, Gender and Health: Recentring Women in African Indigenous Health Discourses in Zimbabwe for Environmental Conservation."

Zimbabwe are caused by human activity.[34] Manyonganise and Museka blame the degradation of the environment on the sidelining of women in environmental management issues.[35] Mapira observes that the Environmental Education programmes focus more on scientific facts at the expense of human behavioural change towards Mother Earth.[36] The Environmental Management Agency (EMA) is also reportedly having challenges with a lack of resources and equipment to carry out its duties of protecting the environment.
Mvura aichanayi zvineshwiro makore ano. Makore mazhinji inzara. Yanaya nguwa dzimweni inoita dutu mupengo, yowandisa yotoshaishazve zviro. Cyclone Idai wakapedze hama dzedu neimweni minda ikafushirwa ngemapuwe. Saka ndharaunda yedu aichazi kueme zvekanaka. Vasharuka vedu vakapona zvirinani. Isusu ndaramo yedu yotambudza ngekuti ndharaunda yedu vanova mai vezvipuka, zvirimwa nevanthu yaparara. Ikwo kupisha kwacho atisati tambokuona. Saka mitombo yonesa kuiona. Rains are no longer reliable. Most years, we have a drought. Sometimes when the rains fall, they're accompanied by storms and cyclones. Cyclone Idai killed our relatives, and some of our fields were ruined. Our ancestors lived a better life. Our living is difficult because the environment, which is the mother to animals, plants and humans, is degraded. Even the level of heat we have never experienced. Therefore, it is now difficult to find the common herbal plants. Our natural environment is no longer good and cannot provide us with the resources it used to provide.

The sentiments of these Ndau women resonate well with those of Brazier, who observes that before the end of the century, average temperatures in Zimbabwe will climb by roughly 3°C due to climate change.[37] There could be a 5%–18% decrease in annual rainfall, particularly in the south. The amount of rainfall will fluctuate greatly. There's going to be more storms, floods, and droughts. This has an impact on Zimbabwe's economy, health, energy supply, and food security.

The participants had knowledge of the indigenous medicines from past generations, but they were helpless in the face of the decline of these important plants due to deforestation and the effects of climate change. The study found that a number of programmes to revive the environment have been taking place in the rural communities of Chipinge District. However, women took a long time to participate in these programmes due to different reasons, as indicated by Mbuya Mwanyadza (aged 58)
Vanouya eya vanofundise zvekurima kwakanaka nekugwarire ivhu redu nemimbiti yedu yakakosha, asi atizvibatikiri hedu ngekuti tinondoti ngezvevana vadoko. Kubeni dambudziko rakhona rinobate munthu weshe. Yes, they teach about ways of preserving soil and important plants, but we do not give them because we believe the lessons on natural resource management are for the young. However, the problem has an impact on us all.

In concurrence, Mbuya Munazvo (aged 52) confirmed that: *Zvirongwa zvekudzidzise kuchengeteza nharaunda zviriuno zvevanthu vakuru uye zvevana vechikora. Madhomeni anodetsera ngekufundise njira dzekurima dzakana uye ve CAMPFIRE vaifundisawo muzvikora nevanthu vakuru zvekuchengetedza nharaunda. Asi vaisa ndivo vanonyaye kuzvibatikira uye ndivo vari muzvigaro zvekutungamirira urongwahwo.* Programmes on natural environmental management are available in our community for school children and people in the community. Agricultural extension officers and people from the CAMPFIRE programme teach us how to preserve our environment. However, men are the ones mainly involved, and they are the ones in the leadership posts for these programmes.

The major issue emanating here is the poor commitment by Ndau women to participating in environmental management programmes. While women are said to be the ones mostly connected to Mother

[34] Jemitias Mapira, "Land Degradation and Sustainable Development in Zimbabwe: An Historical Perspective," *European Journal of Social Sciences Studies*, 2017; S D Prince, I Becker-Reshef, and K Rishmawi, "Detection and Mapping of Long-Term Land Degradation Using Local Net Production Scaling: Application to Zimbabwe," *Remote Sensing of Environment* 113, no. 5 (2009): 1046–57.
[35] Molly Manyonganise and Godfrey Museka, "A Socioreligious Analysis of Zimbabwe's Land Reform Programme and Environmental Degradation," *Mother Earth, Mother Africa & African Indigenous Religion. Edited by Nobuntu Penxa Matholeni, Georgina Kwanima Boateng and Molly Manyonganise. Stellenbosch: African Sun Media*, 2020, 67.
[36] Mapira, "Land Degradation and Sustainable Development in Zimbabwe: An Historical Perspective."
[37] Anna Brazier, "Climate Change in Zimbabwe Facts for Planners and Decision Makers," 2015.

Earth, the participants in this study indicated the least involvement in available environmental management programmes.[38]

Of concern was the fact that the women were not much involved in natural resource management programmes. The following section delves into the mitigation efforts of Ndau women in preserving Mother Earth so that they continue to get medicinal plants and food crops to feed their families.

Theme 3: Intervention strategies put in place by the Ndau women to preserve their natural environment

Traditionally, Ndau women had their own ways of preserving their medicinal plants and trees. For example, when extracting the medicinal part of a plant or tree, some precautions are taken, as illustrated by Mbuya Mwaingeni (aged 56):

Kuti tirambe tinemitombo yedu yechivanthu, kuti weide mashakani umumbuti kuashandisa, haupuriri eshe uye haudamburi nemoyo wakhona, unotora mashani wosiya ari kudhuze nemwoyo kuitire kuti usare weiita amweni mashakani. *Kuti ari mapande emumbuti, unotore rupande rusikachaiwi ngezuwa maningi kuitire kuti mumbuti usashatirwa ngezuwa*. For us to continue having medicinal plants available, if you want to use some leaves from a plant, you should be careful not to damage the plant so that the plant grows more leaves and continues to survive for the next time you need medicine. If you need branches of a tree for medicinal use, you should avoid taking branches from the side which is exposed to the sun, so you take from the sides which are least affected by the sun to avoid more damage to the tree.

This resonates with the observations of Chebii, Muthee and Kiemo, who report that local traditions and indigenous knowledge that is typically transmitted through cultural channels can regulate traditional medicine practices to some extent.[39] Therefore, the cultural practices have helped in the preservation of medicinal plants, though some people no longer respect these cultural norms and practices, as observed by Monyonganise and Museka.[40] Detailed guidelines on how to sustainably harvest indigenous medicine are obtained from Khumalo, Fröde & Sola, who documented a well-illustrated book on how to extract medicinal parts of plants in a way that enables the plant to survive. [41]

Another way of keeping medicinal plants safe from wanton destruction by users is to keep their medicinal properties as private knowledge. Those who know medicinal plants do not readily share their knowledge with anyone, as pointed out by Mai Munorwei (Aged 42), who said:

Kusiya kwezvimitombo zvinondozikanwawo ngemunthu weshe-weshe, mitombo mizhinji inonesa kuziya ngekuti vanorapa avabhuiri munthu kuti mitombonyi yavanoshandisa. With the exception of common medicinal plants, it is very difficult to know the medicinal herbs because herbalists do not share their knowledge with anyone.

The idea of not sharing knowledge about the medicinal properties of plants, especially by herbalists, while it helps to safeguard the plants from wanton destruction, poses a challenge in that the knowledgeable people do not leave behind their legacy in the family and may not gain property rights to what they own due to the secrecy surrounding indigenous medicine. In line with the secrecy surrounding the use of indigenous medicines, Masango calls for African people to codify their expertise and to abandon the status quo of secrecy for the sake of future generations.[42] Certain components of Indigenous Medicine in Africa's indigenous knowledge (IK) practices might not be able to be codified. The esoteric part of African traditional medicine might not be codified since it is secret to a small group of traditional healers who rely on it for their living, but the non-esoteric part can be codified because it contains no secrets.

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[38] Clayton Mashapa et al., "An Assessment of Women Participation in Community-Based Natural Resource Conservation in Southeast Zimbabwe," *Open Journal of Ecology* 10, no. 4 (2020): 189–99.

[39] Willy Kibet Chebii, John Kaunga Muthee, and Karatu Kiemo, "The Governance of Traditional Medicine and Herbal Remedies in the Selected Local Markets of Western Kenya," *Journal of Ethnobiology and Ethnomedicine* 16, no. 1 (2020): 39.

[40] Manyonganise and Museka, "A Socioreligious Analysis of Zimbabwe's Land Reform Programme and Environmental Degradation."

[41] Sibonginkosi Gugulethu Khumalo, Alexander Fröde, and Phosiso Sola, "Guidelines for the Sustainable Harvesting of Traditional Medicinal Plants in Zimbabwe," *Ministry of Environment and Tourism. Southern Alliance Indigen Resour*, 2006, 1–25.

[42] Charles Akwe Masango, "Indigenous Knowledge Codification of African Traditional Medicine: Inhibited by Status Quo Based on Secrecy?," *Information Development* 36, no. 3 (2020): 327–38.

The Ndau women are also getting an education on protecting their natural environment in the face of climate change and deforestation from youth organisations and school programmes where such information is learned by their children, who in turn urge their mothers to adopt these practices. To this end, women in FGD 2 agreed that: *Tinofunda kuchengetedza nharaunda zvakanaka. Vana vedu vari mune chirongwa chinozwi SCOPE vamwe vanoita zveCAMPFIRE. Zvirongwa izvi zvinotifundisa kurima nekudya zvechibarirwe chedu nekungwarira zvishomani zvasara zvezviwanikwa zvedu. Tinodzidziswa kuita mapindu ekurima zvirimwa zvinoshandiswa semitombo inorapa matenda akasiyana-siyana (herbal gardens).* We learn to take care of our environment. Our children are in programmes such as SCOPE Zimbabwe and CAMPFIRE. These programmes teach us environmentally friendly ways of growing indigenous crops and taking good care of the remaining natural resources. We are taught to establish herbal gardens where we grow medicinal plants for our households and for sale.

However, the prevalence of herbal gardens and their viability were severely affected by the shortage of water, as pointed out by Mbuya Angeline Chingoda.

Mapindu emitombo inga akanaka kwemene asi hino ndaa yemvura ndiyo yakanesa. Mvura yekudirizira yakanesa migodhi yemvura inoramba yakafa apa zuwa reipisha yaambho. Saka vanemare dzavo vakaise migodhi inokweya mvura ngesimba reSolar ndivo vasara veirime imweni mitombo. Asi zveruzhinji zvakaraba ngedambudziko remvura. Herbal gardens were great, but the shortage of water was a challenge. The boreholes are always out of order. So those who can afford it have solar-powered boreholes, and they are growing medicinal plants. The public herbal gardens did not sustain due to water challenges.

Another important aspect of medicine has to do with the type of food families eat. Mbuya Dhliwayo illustrated the need for the right food when she indicated that:

Semadzimai, atiemeri kurwara kwevanthu mumbhuri dzedu kuti tizotsvake mitombo. Mukukura kwedu taifundiswe kuti mudzimai unofanire kupa chikhafu chinodziirire zvirwere kumbhuri yakwe. Kudhayakwo anambuya vedu vaipe vana bota reshupa. Bota iri rabikwa nemitombo yaigwinyisa miiri yevana. Vanthu vazhinji vakadya bota reshupa avarwari-rwari. Asi madzimai echidoko emazuwa ano avachadi kupe vana vavo bota reshupa, nyangwe remungoza, vanoti azvienderani neChikristu chavo. Kune vacharemeredze chikhafu chedu chechibarirwe, utano hwavo hwakanaka. Mudzimai unofanirwe kuziya kuti chikhafu mutombo. As women, we do not wait for diseases to strike and then resort to medication. In our upbringing, we were taught that a woman should give her family food that prevents diseases. In the old days, our grandmothers used to add the medicinal powder to babies' porridge and this porridge was called *shupa*. Most people who ate that type of porridge were very strong. However, young mothers these days do not want to give their babies porridge with such concoctions. They believe it's not in line with their Christian belief system. Even giving their babies porridge from millet mealie meal, which strengthens the immune system. Those who still respect our indigenous food their health is good, and they do not easily fall sick. A woman is supposed to see to it that food is not just food, but that it is medicine on its own. Even our indigenous vegetables

The sentiments of these Ndau women confirm the observation that women are closely linked to the natural environment, and the issue of programmes in the district, which teach people how to mitigate climate change for sustainability, is plausible.

RECOMMENDATIONS

The study recommends that the EMA should scale up its activities to safeguard the environment. EMA should enlist the participation of women in its activities since it is women who are mainly affected by the destruction of environmental resources. Environmental programmes such as CAMPFIRE and SCOPE should involve women at the leadership level. The government of Zimbabwe, through its relevant ministries, should step up the creation of IKS policies on the protection of IM and encourage knowledgeable people, such as Ndau women, to obtain patents on the IM plants they know. There is a need for an effective intellectual property policy to govern the operations of indigenous people with regard to their knowledge on conservation and use of IM.

CONCLUSION

The study has undertaken a systematic review of the use of IM and indigenous foods to address ailments related to pandemics such as Covid-19 by Ndau women in Chipinge District, South-East of Zimbabwe. The study concludes that Covid-19 not only bring women to the centre of the discourse on women as caregivers in times of pandemics, but also that they are advocates for the sustainable use of indigenous foods and medicines. They are a form of traditional ways of handling the impact of climate change and are continuously learning new ways of dealing with the frustration of deforestation. Ndau women do not see their caregiving role as a disadvantage or that it places them at a level of abuse, but accept it as their complementary role to their male counterparts. Despite it being demonised, Indigenous medicine has proved to be worthy, available and accessible in the face of the pandemic. Therefore, conservation and propagation of IM becomes essential and calls for the formulation of policies that govern how IM are used so as to cater for future generations. Ndau women need to establish conservation programmes which will influence the processes of resource management within the Ndau communities and beyond. Investments in IM delivery systems have increased as a result of Zimbabwe's current severe economic challenges. The expense and unavailability of conventional medications are making it more and more difficult for the majority of the population to get these services. Thus, Ndau women's use of indigenous medicines is addressing a severe need in the community's well-being.

The study concludes that developing countries such as Zimbabwe need to increase their efforts to protect their indigenous knowledge on indigenous medicines, as it plays a major role in the primary health care system. If laws are established to regulate their protection, indigenous medicines have the potential to improve the economies of many African nations. Zimbabwe should implement a sui generis system and create an IKS policy that is focused on the protection of IM in order to have an effective and fair intellectual property system that is governed by a strong intellectual property policy. To guarantee that local communities gain, a patenting system that grants them collective ownership rights should be put in place. Additionally, the issue of benefit sharing should be addressed at the national level.

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